



# Measure Information Template

## **California Building Energy Efficiency Standards Revisions for July 2003 Adoption**

October 4, 2001

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### **Purpose**

This document is a template of the information necessary to complete a preliminary evaluation of proposed changes to the **2005 Building Energy Efficiency Standards**. Information provided through this template will be used to identify possible changes to the Standards to be released for comment in July 2002 and adopted in July 2003.

Additional information and analysis will be needed for measures that pass the initial screening. Additional work would include a life cycle cost analysis, development of calculation procedures, preparation of explanatory material for the energy conservation manuals, rules for the ACM manuals, and more thorough investigation of the items in this template.

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### **Template Subheads**

A document should be produced for each measure/change proposed for consideration. The document should use the following subheads. A paragraph follows each subhead, which expands on the information to be provided.

#### **Description**

Describe the proposed measure or change and how it would apply to buildings regulated by the California Building Energy Efficiency Standards. Describe the building types or systems where the change/measure would most likely apply. Provide appropriate details. Keep the description brief – just a single paragraph, if possible.

#### **Benefits**

Describe the benefits of the change/measure, especially energy savings and electricity peak demand reduction. Identify other benefits, such as comfort, reduced maintenance costs, environmental benefits, indoor air quality benefits, health and safety benefits, productivity, and increased property valuation. Describe how Time Dependent Valuation (TDV) would affect benefits attributed to the measure.

## Environmental Impact

Does the change/measure have any potential adverse environmental impacts? Is water consumption increased? Does it have an impact on indoor air quality or otherwise affect indoor environmental quality? Does it affect atmospheric emissions (including ozone depleting gases)? Are there environmental or energy impacts associated with material extraction, manufacture, packaging, shipping to the job site, installation at the job site, or other activities associated with implementing the measure in buildings?

## Type of Change

Describe how the measure or change would be addressed in the California standards, e.g. is the proposed change likely to be a mandatory measure, prescriptive requirement, or compliance option? Would it change the way that tradeoff calculations are made? The following describe the types of changes in more detail.

<b>Mandatory Measure</b>	The change would add or modify a mandatory measure. Mandatory measures must be satisfied with either the prescriptive or performance compliance methods.
<b>Prescriptive Requirement</b>	The change would add or modify a prescriptive requirement. Prescriptive requirements must be met for prescriptive compliance and define the Standards baseline building in performance calculations, but are not mandatory when the performance approach is used.
<b>Compliance Option</b>	The change would add a new means to comply with the standards by adding a new compliance option.
<b>Modeling</b>	The change would modify the calculation procedures or assumptions used in making performance calculations. This change would not add a compliance option or a new requirement, but would affect the way that tradeoffs are made.
<b>Other</b>	If the proposed change is not a mandatory or prescriptive requirement, compliance option or modeling assumption or change, please describe what type of change it is.

Does the proposed change modify or expand the scope of the standards? As result of the change, would the standards address new issues or provide requirements for systems or equipment, not previously regulated?

Identify the Standards documents (Standards, ACM, manuals, compliance forms, etc.) that would need to be modified in order to implement the proposed change. Briefly describe the nature of the change to each document.

### **Measure Availability and Cost**

Identify the principal manufacturers/suppliers who make the measure (product, technology, design strategy or installation technique), and their methods of distribution. Is the measure readily available from multiple providers? Comment on the current ability of the market to supply the measure in response to the possible Standards change and the potential for the market to ramp up to meet demand associated with the possible Standards change. Identify competing products.

Define the baseline condition. For life cycle cost analysis, what would the measure be compared to, e.g. the current standards or common practice? Be specific.

In general terms, how much does the measure cost compared to the baseline condition? Comment on both initial cost and maintenance costs. Are performance verification or commissioning costs significant?

### **Useful Life, Persistence and Maintenance**

Describe the life, frequency of replacement, and maintenance procedures related to the measure. How long will energy savings related to the measure persist? Is persistence related to performance verification, proper maintenance and/or commissioning? If there are issues related to persistence, how can they be addressed? (See topic on performance verification.)

### **Performance Verification**

Does the technology or design strategy need performance verification or commissioning to insure that it is properly installed and/or performing as designed? How is the energy performance, useful life and persistence of savings affected by performance verification or commissioning? What specific performance verification measures or requirements are needed to assure that the measure is properly installed and performing as designed?

### **Cost Effectiveness**

Is the proposed change likely to be cost effective? If the change is a mandatory measure or prescriptive requirement, then it is necessary to demonstrate cost effectiveness. If required, how will the measure be shown to be cost effective? Describe the cost effectiveness methodology in enough detail to estimate the time required and the resources needed to carry it out. While cost effectiveness justification is not needed for compliance options, it will help make the case for their consideration.

### **Analysis Tools**

What tools would be needed to quantify energy savings and peak electricity demand reductions? Can these benefits be quantified using the current reference method? What enhancements to the reference method are needed, if any?

**Relationship to Other Measures**

Identify any other measures that are impacted by this change. Explain the nature of the impact.

**Bibliography and Other Research**

List and describe in a few sentences the research studies, reports, and personal communications that provide background on the proposed change/measure. Summarize research that is underway, which addresses the measure/change. Indicate if data or information will be produced in time to be used in this update of the Standards.

Identify all resources that should be pursued to further investigate this measure. Identify all “experts” that should be involved in further developing the change, all research and analysis reports and documents that should be reviewed, all industry standards that should be consulted (e.g., ASTM, UL, ASHRAE test procedures, etc.).